RA-15-072 10 CFR 50.73

August 24, 2015

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555 - 0001

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Licensee Event Report (LER) 2014-006-01, Reactor SCRAM due to Decreasing Reactor Water Level

Enclosed is Revision 01 to LER 2014-006, Reactor Scram due to Decreasing Reactor Water Level, which occurred on October 12, 2014. This revision includes additional information from the Root Cause Report and subsequent Corrective Actions from the event. This event did not affect the health and safety of the public or plant personnel. This event did not result in a safety system functional failure. There are no regulatory commitments made in this LER submittal.

Should you have any questions concerning this letter, please contact Michael McKenna, Regulatory Assurance Manager, at (609) 971-4389.

Respectfully,

Jeffrey P. Dosta
Plant Manager
Oyster Creek Nuclear Generating Station

Enclosure: NRC Form 366, LER 2014-006-01

cc: Administrator, NRC Region I
NRC Senior Resident Inspector - Oyster Creek Nuclear Generating Station
NRC Project Manager - Oyster Creek Nuclear Generating Station

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NRC FORM 366 (01-2014) | U.S. NUCLEAR REGULATORY COMMISSION | APPROVED BY OMB: NO. 3150-0104 | EXPIRES: 01/31/2017

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Oyster Creek, Unit 1	05000219	1 OF 3

4. TITLE

Reactor SCRAM due to Decreasing Reactor Water Level

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									N/A	N/A
10	12	2014	2014	- 006	- 01	08	11	2015	FACILITY NAME: N/A	DOCKET NUMBER: N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
N	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
1%	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Michael McKenna, Regulatory Assurance Manager	(609) 971-4389

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
A	N/A	N/A	N/A	N	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO		03	13	15

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On October 12, 2014, an automatic SCRAM occurred during the reactor startup evolution following the 1R25 refueling outage. The SCRAM occurred when a station electrician, in conjunction with a General Electric technician and a site engineer, secured power to the Main Generator Automatic Voltage Regulator (AVR) controllers while the Main Turbine warming evolution was in progress. The individuals were not authorized to perform this action nor did they have procedures in the field to operate the equipment. Their actions resulted in an automatic reactor SCRAM on low water level.

ENS 50524 was submitted on October 12, 2014, and updated on October 17, 2014. This issue is reportable under 10 CFR 50.73(a)(2)(iv)(A), because it involved an event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B).

The Root Cause Analysis was completed on January 30, 2015. The cause of this event was determined to be that Station Leadership has inconsistently reinforced Human Performance Error Reduction Tool Use and Procedure Use and Adherence. This resulted in the breakdown of multiple fundamental practices and standards that led to the event.

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NARRATIVE

Description of Event

On October 12, 2014, during a planned reactor power ascension with reactor power at approximately 1% of rated thermal power, reactor water level began lowering. An automatic SCRAM occurred at 0251 EDT, moments before operators inserted a manual SCRAM in accordance with station procedures. The SCRAM occurred when an electrical technician reset all three Main Generator Automatic Voltage Regulator (AVR) controllers. This resulted in a Main Turbine trip while warming was in progress.

In this condition, the Turbine Bypass Valves (TBV) are held open by the Bypass Valve Opening Jack (BVOJ) with the internal bypass of the #2 TBV open, admitting steam to the Low Pressure (LP) turbine. In this state, when the turbine is tripped, Turbine Emergency Trip Oil pressure is dumped, which closes the TSVs and Turbine Control Valves (TCVs). However, because the BVOJ was open, and the pressure wave caused by the TSV closure, the TBVs go to 90% open, which corresponds to a steam flow of approximately 35% Core Thermal Power. Reactor steam flow immediately increased and reactor pressure rapidly lowered. The initial reactor level swell reached 179" Top of Active Fuel (TAF) (Turbine Trip is 175" TAF as a reference) due to the voiding swell while reactor pressure decreases. The Balance of Plant (BOP) Reactor Operator (RO) commenced driving the BVOJ closed in accordance with station procedures in an attempt to reduce the rate of pressure reduction and maintain reactor inventory. This drives a reduction in voiding swell and a level decrease that is compounded by a significant inventory reduction due to the single element control on the 'A' Low Flow Feed Regulating Valve not being capable of providing adequate flow to compensate for this transient. As a result, indicated reactor level rapidly lowers, and the Unit RO performs the manual SCRAM actions in accordance with station procedures. However, the automatic SCRAM was processed moments before by the Reactor Protection System (RPS) reactor low-level signal. The Unit RO was less than one second behind the automatic SCRAM. The reactor water level reached a low point of approximately 107" TAF. Following the reactor SCRAM, all systems operated as expected.

Analysis of the Event

Following the actuation, all systems responded as expected; therefore, this event is of low safety significance.

Cause of Event

On October 12, 2014, an automatic SCRAM occurred during the reactor startup evolution following the 1R25 refueling outage. The SCRAM occurred when a station electrician secured power to the Main Generator AVR controllers while the Main Turbine warming evolution was in progress. The electrician, engineer, and technician were not authorized to perform this action nor did they have procedures in the field to operate the equipment. Additional barriers had failed in the process sequence that could have prevented this event, including failure to follow the task management process and procedures, failure to conduct proper briefs in accordance with human performance procedures, and gaps in the planning process that resulted in an inadequate work package. These and other failed barriers in this sequence exhibited a commonality of a failure to comply with the applicable process and procedure.

NARRATIVE

he Root Cause of this event is that Station Leadership has inconsistently reinforced Human Performance Error Reduction Tool Use and Procedure Use and Adherence. A Contributing Cause is that individuals made decisions to deviate from processes, procedures, and human performance tool use because they incorrectly assumed there was no risk involved and they wanted to complete the assigned task to meet schedules.

Corrective Actions

To address the Root Cause, Exelon took (or will take) the following actions:

1. Senior Leadership Team will review at least once per week the station performance observations (i.e., Day in the Field, Daily Observation challenges, meeting observations, etc.) for strengths and gaps in human performance error reduction tool usage and procedure use and adherence to ensure supervision is critically observing performance. Trends and specific observations/direction will be communicated to First-Line Supervisors and above on a weekly basis.
2. Generate and communicate a human performance vision statement to the site.
3. Establish a daily, First-Line Supervisor time in the field expectation of at least two hours and daily observations focused on human performance tool use and procedure use and adherence.
4. Create a template and implement a process for the First-Line Supervisor/Manager Daily Observations and the Senior Leadership Team presentation and challenge. First-Line Supervisors or Managers will present their Daily Observation of human performance error reduction tool use and procedure use and adherence to multiple Senior Leadership Team members. The Senior Leadership Team members will engage the First-Line Supervisors and Managers to ensure leadership team alignment and supervisor engagement in human performance and procedure use and adherence. The outcome of this interaction will be documented in a performance observation database for that First-Line Supervisor.
5. The Station Leadership Alignment Meeting and the Leader-to-Leader meeting will have agenda items specifically to address observed site behavior for human performance and procedure use and adherence to align on observations and actions.

To address the Contributing Cause, Exelon has taken (or will take) the following actions:

1. Create and implement a Behavior Based Performance Policy to ensure a clear and consistent management approach to procedure use and adherence issues.
2. Site management will discuss with their direct reporting personnel that the expectation is strict compliance with processes and procedures; each instance of non-compliance will be addressed consistently. These discussions are to be documented in the performance observation database or an affirmation letter.

Previous Occurrences

This was the first occurrence of the Automatic Voltage Regulator causing a Main Turbine trip, and the subsequent SCRAM at Oyster Creek. There arre historical Issue Reports (IRs) that documented deficiencies related to procedure use and adherence and the improper use of human performance tools.